Thrills & Chills

Activity 5  
Weight on a Roller Coaster

Goals…

* Recognize that the weight of an object remains the same when at rest or moving or at a constant speed
* Explore the change in apparent weight as an object accelerates up or down
* Analyze the forces on a mass at rest, with constant velocity or accelerating by drawing vector diagrams
* Mathematically predict the change in apparent weight as a mass accelerates up or down

For You To Read Key Points To Learn

* Accelerating Click here to enter text. = Click here to enter text. weight, scale Click here to enter text. more and Earth pulls down Click here to enter text.
* Accelerating Click here to enter text. = Click here to enter text. weight, scale doesn’t Click here to enter text. up as much
* Moving at Click here to enter text. speed or at rest = no weight Click here to enter text. because there is Click here to enter text. force

What did you learn?

* + You feel as if you Click here to enter text. when an elevator accelerates up because the Earth pulls down on you Click here to enter text.you are being pushed up
  + When the elevator accelerates down you feel as if you Click here to enter text.because the force of the scale up on you is Click here to enter text.the force of your weight down
  + If the cable wouldClick here to enter text., you would be “weightless” - the scale would not push up, only the force of your weight is pulling you down
  + Roller coasters are designed to Click here to enter text. this